Remarks

Claim 1, which is directed to an associative amphoteric polymer that consists essentially of (a) between 0.005 and 10 mole % of at least one acrylamide-derived cationic monomer containing a hydrophobic chain, (b) between 1 and 30 mole % of at least one anionic monomer containing acrylic, vinyl, maleic, fumaric or allyl functionalities and containing a group selected from carboxy, phosphonate or sulfonate and/or their ammonium salts or alkaline-earth metal salts or alkali metal salts; and (c) between 1 and 99 mole % of at least one acrylamide-derived non-ionic hydrosoluble monomer.

Claims 7, 15, and 16 are currently amended to recite that the upper range of the acidic component is 30 mole %, consistent with previously presented claim 1.

New claim 21, depending from claim 18, recites that the associative amphoteric polymer comprises between 1 and 30 mole% of the anionic monomer containing a carboxylic acid group or a salt thereof.

No new matter is added by the foregoing claim amendments or the new claim.

Claims 1-11 and 13-20 have been finally rejected under 35 U.S.C. §103(a) as being unpatentable over Albrecht et al., US 6,187,887 ("Albrecht"), or Schinabeck et al, US 7,238,760 ("Schinabeck") in view of Albrecht.

In light of the foregoing amendment of the claims and the remarks that follow, these rejections are respectfully traversed.

Albrecht is directed to water-soluble or water-swellable copolymers based on (meth)acrylamide alkylsulfonic acids that are useful in building material mixes and surface coating systems (Abstract). The reference discloses that even small quantities of copolymers containing sulfonic groups serve as very effective water retention agents in building material mixes and paint systems, and that the copolymers of the invention contain at least four monomeric structural components a), b), c), and d) (column 2, lines 33-41). Optionally, the copolymer can include an additional crosslinking component e) (column 4, lines 45-54).

As further disclosed in Albrecht, "It is essential to the invention that the copolymers contain 3 to 96 mol % of structural component a), 3 to 96 mol % of structural component b), 0.05 to 75 mol % of structural component c), and 0.01 to 50 mol % of structural component d),..."

(column 5, lines 9-15, emphasis added). The illustrative examples of Albrecht describe the preparation of the disclosed copolymers as solids, typically powders, and their addition in solid form to ready-mix plaster and mortar formulations.

Schinabeck discloses water-soluble or water-swellable associatively thickening copolymers that contain sulfonic groups and are based on (meth)acrylamide alkylsulfonic acids (Title) The formula of the sulfonic –substituted (meth)acrylamide structural unit disclosed in Schinabeck is substantially the same as that employed in Albrecht. Schinabeck asserts that the disclosed copolymers "permit a marked improvement in water retention and controlled adjustment of thickening properties. Even at high salt concentrations, it is possible to achieve a realistic consistent usage consistency. These effects, too, were certainly not predictable." (column 3, lines 14-18, emphasis added)

Schinabeck further discloses that "The associatively thickening monomers of the unit d) are moreover needed at at least 0.3 mol %, since they have a major effect on the properties of the gel block. The hydrophobic monomers harden the gel block sufficiently to improve its ease of comminution (column 7, lines 37-41, emphasis added).

The copolymers of both Albrecht and Schinabeck, which are intended for use in plasters and adhesives, are required to include four separate monomeric components: a), b), c), and d). By contrast, the applicants' associative amphoteric polymers, which are employed to adjust the viscosity of aqueous solutions, consist essentially of only three monomeric components: (a), (b), and (c), which correspond substantially to, respectively, structural units c), a), and b) of Albrecht or Schinabeck. Structural unit d) of Albrecht or Schinabeck, which is typically a monomer derived from a polyethylene glycol, is absent from the polymers of the present invention.

On page 5 of the Office Action, the examiner took the position that the "applicant has not provided evidence showing the inclusion of prior art additional recurring unit would materially affect the basic novel characteristics of the claimed invention." In response, the applicants respectfully assert that such evidence is convincingly presented in the cited prior art references themselves, which disclose the preparation of the subject copolymers as solids that serve as components of plaster and mortar formulations. The copolymers of Albrecht and Schinabeck containing four essential monomeric units four are asserted to exhibit unpredictable but desirable

properties for their intended uses. It is reasonable to assume that removal of one of these structural units would alter their properties in a manner that is also unpredictable. Regardless, neither reference provides any suggestion or motivation to remove the essential d) structural unit to prepare a copolymer useful for adjusting the viscosity of aqueous solutions, as provided by the present invention.

In light of the foregoing amendments and remarks, reconsideration and withdrawal of the final rejection of claims 1-11 and 13-20 is respectfully requested.

As discussed above, the copolymers of both Albrecht and Schinabeck are required to include four structural units, one of which (unit a)) contains a sulfonic solubilizing group. With regard to instant claims 18-19 and 21, the applicants note that these claims are directed to polymers that contain a carboxylic acid group or salt thereof but do not include a sulfonic group.

Claims 1-11 and 13-21 are now pending in this application, which is believed to be in condition for allowance If a telephone conference would be helpful in advancing the prosecution of this application, the Examiner is invited to contact the applicants' undersigned agent at the telephone number provided below.

Respectfully submitted,

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